

REMARKS

Summary of the Office Action and this Amendment

In paragraph 3 of the office action mailed 12/21/05, the examiner states, "Figure 1 should be designated by a legend such as –Prior Art—because only that which is old is illustrated...."

In paragraph 6 of the office action, the examiner states, "Claims 1-15, 20-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Melzer et al (USPN 6,346,992), hereafter as Melzer.

In paragraph 8 of the office action, the examiner states, "Claims 16-19 are rejected under 35 U.S.C. 103(a) as being obvious over Melzer et al (USPN 6,346,992) in view of the applicants' admitted prior art, hereafter as AAPA.

In this Amendment, the applicant has amended claims 1-5, 8-9, 11-13, and 15-21. Support for the amendments can be found, for example, in the drawings, in the specification on page 12, lines 10-27, on page 13, lines 6-20, on page 14, lines 20-22, on page 15, lines 8-30, on page 16, lines 1-7, and in the originally filed claims. No new matter has been added. Claims 1-23 are now pending in the application.

Correction of the Drawings

As mentioned above, in paragraph 3 of the office action, the examiner states, "Figure 1 should be designated by a legend such as –Prior Art—because only that which is old is illustrated...." The applicant has corrected Figure 1 as suggested by the examiner, so that Figure 1 now includes the legend "Prior Art". A replacement drawing sheet is attached to this amendment.

Claim Rejections - 35 U.S.C. 102 and 35 U.S.C. 103

a. Legal Criteria 35 U.S.C. 102

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). . . . "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

MPEP § 2131 (8th ed., rev. 4, Oct. 2005).

b. Legal Criteria 35 U.S.C. 103

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

MPEP § 706.02(j) (8th ed., rev. 4, Oct. 2005).

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

MPEP § 2143.01 (8th ed., rev. 4, Oct. 2005) (emphasis in original).

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (D) Reasonable expectation of success is the standard with which obviousness is determined.

Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

MPEP § 2141 (8th ed., rev. 4, Oct. 2005).

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).

MPEP § 2141.02 (8th ed., rev. 4, Oct. 2005).

c. Discussion Regarding the 35 U.S.C. 102 Rejections

As mentioned above, in paragraph 6 of the office action, the examiner states, "Claims 1-15, 20-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Melzer et al (USPN 6,346,992), hereafter as Melzer.

The applicant submits that all of the independent claims presented herein include limitations that are not described in any of the cited references, and are not taught or suggested by any of the cited references. The independent claims currently pending are claims 1, 4, 20, and 21 as amended herein.

Claim 1:

The applicant submits that claim 1 as amended herein, includes at least the following limitations that are not described in Melzer:

a spindle configured for mounting the storage disk on the spindle;

a device coupled to the spindle for rotating the spindle to change the angular position of the storage disk with respect to a predefined reference position; and

a metal bar pressed against the spindle for braking the spindle at a predetermined position and not allowing a swing back.

In paragraph 6 of the office action, the examiner states:

RE claims 1, 4 and 20, Melzer discloses an apparatus for precisely positioning a medium (see figure 1), comprising: a spindle configured for mounting the medium on the spindle (see column 6 lines 25-28; i.e., the spindle 10 configured for mounting the medium 18); a device coupled to the spindle for rotating the spindle to change the angular position of the medium with respect to a predefined reference position (see

column 6 lines 17-24; i.e., the stepper motor 16 coupled to spindle 10 for rotating the spindle 10)....

However, in column 6, lines 25-31, Melzer states:

A rotationally symmetrical mass in the form of a disk 18 is mounted, such that it can rotate, on the section of the spindle 10 between the stepping motor 16 and the bearing 12. A friction clutch 20 acts on one flat face of the disk 18, to drive it, and is coupled to the spindle 10. The disk 18 and the friction clutch 20 form a damping device

Thus, the applicant respectfully submits that the disk 18 of Melzer is not a "storage disk" as is claimed by the applicant. Also, at least for the reason that Melzer does not disclose a storage disk, the applicant submits that Melzer does not describe "a spindle configured for mounting the storage disk on the spindle" as recited in claim 1 as amended herein.

Additionally, the applicant submits that Melzer does not describe "a device coupled to the spindle for rotating the spindle to change the angular position of the storage disk with respect to a predefined reference position" as recited in claim 1 as amended herein.

In this regard, at column 6, lines 22-24, Melzer states:

The spindle 10 and the split nut form an apparatus for converting the rotary movement of the stepping motor 16 into a linear movement of the transport carriage 8.

Further, at column 6, lines 8-11, Melzer states:

A transport carriage 8 is carried on the guide rails 6 so that it can be moved over the entire length of the cylindrical trough

2, and parallel to the axis of the cylindrical trough 2.

Thus, Melzer describes "converting the rotary movement of the stepping motor 16 into a linear movement of the transport carriage 8", but does not describe "a device coupled to the spindle for rotating the spindle to change the angular position of the storage disk with respect to a predefined reference position" as is recited in claim 1 as amended herein.

Additionally, the applicant submits that Melzer does not describe "a metal bar pressed against the spindle for braking the spindle" as is recited in claim 1 as amended herein. In this regard, in paragraph 6 of the office action, the examiner states, "Melzer discloses the friction element comprises a bar adapted to be pressed against the spindle (see column 6 lines 28-31; the friction clutch 20)." The applicant submits that the circular friction clutch 20 shown in Fig. 1 of Melzer is not "a metal bar pressed against the spindle for braking the spindle" as is recited in claim 1 as amended herein. Further, the applicant submits that, in Melzer, the friction clutch 20 is not pressed against the spindle 10 for braking the spindle 10.

In summary, the applicant submits that Melzer does not describe each and every element set forth in claim 1, and therefore, the rejection of claim 1 should be withdrawn.

Claim 4:

The applicant submits that claim 4 as amended herein, includes at least the following limitations that are not described in Melzer:

a spindle configured for mounting the storage disk on the spindle;
a stepper motor coupled to the spindle for rotating the spindle to change the angular position of the storage disk with respect to a predefined reference position; and

a flexible spring shaped as a bar adapted to be pressed
against the spindle for braking the spindle at a predetermined
position and not allowing a swing back.

The discussion above regarding claim 1 is also applicable to claim 4. Additionally, the applicant submits that Melzer does not describe “a flexible spring shaped as a bar adapted to be pressed against the spindle for braking the spindle at a predetermined position and not allowing a swing back” as is recited in claim 4 as amended herein. In paragraph 6 of the office action, the examiner stated “Melzer discloses that the bar comprises a flexible spring (see figure 1 and column 10 lines 8-19).” The applicant submits that the plate spring 56 shown in Fig. 4 of Melzer is not “shaped as a bar” and is not “adapted to be pressed against the spindle” as is recited in claim 4 as amended herein. Also, the applicant submits that the circular friction clutch 20 shown in Fig. 1 of Melzer is not “a flexible spring shaped as a bar adapted to be pressed against the spindle for braking the spindle” as is recited in claim 4 as amended herein. Further, the applicant submits that, in Melzer, the friction clutch 20 is not pressed against the spindle 10 for braking the spindle 10.

In summary, the applicant submits that Melzer does not describe each and every element set forth in claim 4, and therefore, the rejection of claim 4 should be withdrawn.

Claim 20:

The applicant submits that claim 20 as amended herein, includes at least the following limitations that are not described in Melzer:

a flexible spring shaped as a bar pressed against the
spindle, for braking the spindle at a predetermined position and not
allowing a swing back.

The discussion above regarding claims 1 and 4 is also applicable to claim 20, and consequently, the applicant submits that Melzer does not describe each and every element set forth in claim 20, and therefore, the rejection of claim 20 should be withdrawn.

Claim 21:

The applicant submits that claim 21 as amended herein, includes at least the following limitations that are not described in Melzer:

mounting the storage disk on the spindle;
using the amount of electrical current of a relay to press a
flexible spring shaped as a bar against the spindle using a
predetermined friction force;

...

stopping a stepper motor at a predefined encoder signal pulse number P_{In-x} so that a static position of the spindle is achieved between two encoder signal pulses;

rotating the spindle stepwise until an encoder signal pulse P_{In-1} is reached;

moving the spindle to the encoder signal pulse P_{In} ;
counting the number of steps necessary to move the spindle from the signal pulse P_{In-1} to the signal pulse P_{In} ; and

based on the number of steps counted, calculating the number of steps necessary to move the spindle to the predefined angular position.

With regard to the operation of "mounting the storage disk on the spindle", as discussed above regarding claim 1, the applicant submits that Melzer does

not describe a storage disk, and does not describe mounting a storage disk on a spindle.

With regard to the operation of “using the amount of electrical current of a relay to press a flexible spring shaped as a bar against the spindle using a predetermined friction force”, the discussion above for claim 4 regarding “a flexible spring shaped as a bar” is also applicable to claim 21. With regard to the relay, in paragraph 6 of the office action, the examiner states that “Melzer discloses a relay, wherein the bar is connected to the relay (see figure 1)” and that “Melzer discloses that the relay is software-controllable (see column 7 lines 29-50 and column 1 lines 46-56).” The applicant respectfully submits that Melzer does not describe a relay at all. Rather, the portion of Melzer at column 7, lines 29-50, which is cited by the examiner, concerns “the number of stepping motor steps per revolution of the light deflection device 24 for which the clock will be masked out” and in no way describes a relay or operation of a relay. Similarly, the portion Melzer at column 1, lines 46-56, which is cited by the examiner, concerns “drive pulses [that] are obtained from a high-frequency master clock which is divided in a divider”, and in no way describes a relay or operation of a relay.

In paragraph 6 of the office action, the examiner states:

Claims 21-23 are the method steps associated with the apparatus of claim 1-15, 20 and therefore are rejected on the same basis as the apparatus claims.

The applicant respectfully submits that the examiner did not address the following limitations of claim 21, and that Melzer in no way describes the following limitations of claim 21:

stopping a stepper motor at a predefined encoder signal pulse number P_{in-x} so that a static position of the spindle is achieved between two encoder signal pulses;

rotating the spindle stepwise until an encoder signal pulse P_{In-1} is reached;

moving the spindle to the encoder signal pulse P_{In} ;

counting the number of steps necessary to move the spindle from the signal pulse P_{In-1} to the signal pulse P_{In} ; and

based on the number of steps counted, calculating the number of steps necessary to move the spindle to the predefined angular position.

In summary, the applicant submits that Melzer does not describe each and every element set forth in claim 21, and therefore, the rejection of claim 21 should be withdrawn.

Independent Claims in General

In view of the discussion above, the applicant submits that the independent claims as presented herein are not anticipated by any of the references, because each and every element as set forth in the claims is not found, either expressly or inherently described in any of the references. Further, applicant submits that the independent claims as presented herein are not obvious, because the references when combined do not teach or suggest all of the claim limitations, and further, there is no suggestion or motivation, either in the references or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings.

Amendments, and Dependent Claims in General

The applicant submits that all of the dependent claims are novel and nonobvious for at least the reasons discussed above with regard to the independent claims. For example, claims 17, 18, and 19, which were rejected under 35 U.S.C. 103(a), are amended herein to be dependent upon claim 20, and are novel and nonobvious for at least the reasons discussed above regarding claim 20. Additionally, claim 8 includes "an air pressure cylinder", which is in no way described in the portions of Melzer cited by the examiner in paragraph 6 of the office action, or in any other part of Melzer. Some of the claim amendments in this amendment were made to clarify the wording and to correct typographical errors.

Conclusion

In summary, the applicant respectfully submits that the claims as presented herein are novel and nonobvious. In conclusion, the applicant respectfully submits that the application is in condition for allowance, and applicant requests reconsideration and further examination, and allowance of the application. Any additional fees required in connection with this amendment that are not specifically provided for herewith are authorized to be charged to Deposit Account No. 09-0466 in the name of International Business Machines Corporation.

Respectfully submitted,



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